METHOD AND APPARATUS FOR TUNING RF INTEGRATED LC FILTERS

ABSTRACT OF THE DISCLOSURE

Using low impedance switches and coupling to a virtual ground, one or more capacitors are selectively switched into or out of an inductive-capacitive resonant circuit portion of an integrated circuit filter to alter the resonant frequency based on a phase difference between the resonant frequency and a reference frequency. The capacitors are sized for a sequence of total capacitances proceeding by halves or doubles between values corresponding to minimum and maximum desired frequency adjustments, allowing a binary count of pulses representative of the phase difference to address the correct combination of capacitors. An exact or ratioed replica of the inductive-capacitive resonant circuit, controlled by the same capacitance selection signal, may be used as a frequency-selective amplifier load or matching network, or to form a ladder filter.